

ON RUNNING FRUSH OF HORSES' FEET.

[Third Edition, London, 1842.]

As there appears to be no sufficient reason for continuing the absurd and barbarous appellation of *Thrush* to this disorder, I take the liberty of restoring again to its proper place in our language the real old English term *Frush*, as the continuation of the former can only perpetuate confusion and error which has but too long prevailed in these things. The above corruption appears to have proceeded from the Jockeys and Smiths, and perhaps Amateurs of the turf, who have too blindly followed them, for it has existed only since the commencement of the racing for Plates, which introduced a new era in horse affairs, and not much to their advantage or advancement at least in knowledge, as during the three hundred years it has been in vogue, no light on these matters has proceeded from this school. One can only attribute this error to the want of attention to the spelling and also to the source and origin of the Word which has no analogy with any such name or thing as a *Thrush*, that similarity of sound alone has probably been the cause of their being so misled, for the term is wholly erroneous and perfectly inapplicable in any way to this complaint. I restore the original word therefore for two reasons, first because the word *Thrush* is equivocal and conveys no idea of the complaint, meaning a singing bird or a disease of children; and secondly, because we enrich the British language by adding to it a definite term for a specific object, the present disorder of horses, and which has no analogy with any other, by which we are enabled readily to think, speak, or write upon it without any confusion, for names or epithets for distinct objects when well chosen are of no mean importance in conveying correct ideas and reasonings, but, on the other hand, if ambiguous or incorrect, only serve to embarrass, disturb, and often falsify them.

We may remark that the term *Frush* is originally derived from the Latin *Furca*, signifying a fork, and was probably more immediately obtained by us from the French word *Fourche*, also signifying the same thing, and its diminutive *Fourchette*, we see, is the appellation in this language of the frog or furch, at this day. Hence formerly we obtained *Running Fourche*, for this disease, and afterwards by an easy transition, *Running Frush*, which word actually occurs in our old English writers, as in *Blundeville*, *De Grey*, and others, and is therefore there is no doubt the true word. The epithet, *Furca*, in French *Fourche*, or *Fork*, was given it by the Romans and French in allusion there is no

doubt, to the forked base or cleft of the Furch, this part branching off laterally to cover over the sharp inflected ends of the hoof and forming there a denser coat, which we have called the *bulbs* of the Furch, and the French have called these parts the *Glomes*, at my suggestion, the former term not being admissible in their language.* That *Frog* could not be the original name appears evident from there being no analogous word for this part in meaning, or of similarity in sound, indeed, in any of the languages from whence the English language is derived. I therefore recommend, in speaking of it or its conditions and qualities, adjectively, to use the word *Furcaceous*, as the word frog does not admit of any adjective whatever, that is at all applicable to the organ in question, as such would ever relate to the animal itself, but the true origin of these corruptions is more fully explained and how they arose at p. 89 of the *Hipponomia*, to which we particularly wish to refer the reader's attention.

The disorder itself is truly a troublesome one, and often rendered still more so by the want of a proper management. Much weakness and soreness of the part appears to attend it, which is productive of great inconvenience, and sometimes of serious accidents; for when the horse treads upon a stone or flint in the road, and with his whole weight it may be, resting upon this tender point, he drops from excessive pain, with the limb, or perhaps falls down. A disease so painful and frequent is therefore well worth the labor of an essay, in which what I have to advance is for the most part new, at least differing from the views generally entertained of it. For contracted heels have been hitherto generally considered the chief cause of this disease, but which we shall show is by no means the case; and for the treatment, pressure on the frog, and even cutting away the horn of the part itself, has been recommended, which we shall exhibit as quite unnecessary, or something worse.

It appears to be necessary, in order to set this complaint in a more clear light, to give some account of the formation growth and structure of the part itself, by which *the natural Frush* will be best understood; and then afterwards to consider *the secondary or acquired Frush*, which distinction appears to be of value in estimating them, and afterwards we propose to treat of the cure.

The part diseased, and which in my Treatise on the Foot of the Horse published in 1809, I called the Furch-stay, as being the part that held the base of the Furch together, and observed, that feet when even in the most contracted state often were without any appearance of frush, and further that one foot might be frushed and the other not, of the same horse, though both were equally contracted, that this pointed out clearly some other cause was producing it than mere contraction of the foot; and again, that the feet of young horses which had never been shod, consequently could not, in the proper sense of the word, be contracted, had Frushes often, and very bad ones, so that it was most evident that some other cause than mere contraction, must be the source of it.

* The Greeks appear also, like the other nations, to have given it an appellation which referred to the forked nature of its base, for they called it $\chi\epsilon\lambda\iota\delta\omega\nu$, or *the Swallow*, the forked tail of this bird being most probably the object here alluded to.

In the above work the *Frog-stay* or which is better, *Furch-stay*, is thus described. "In the base of the Frog, or posteriorly at its widest part, there is seen a deep oval cavity or depression, (see Frontispiece to Hippodonomia) and which hollow cavity is called the *Cleft of the Frog* or *Furch*, and whose edges or margins are surrounded by rising lips of a more polished, denser, and harder horn, apparently to secure it from rupture by external violence, and the sides of this cavity sloping pretty suddenly, meet and form a longitudinal line at the bottom of it, thus closing and terminating it. In the offices and business of the foot this cavity appears to be useful in many ways. By its closing when strong pressure comes upon the base of the Furch, it saves it from a too severe condensation of its horn, which would be inconvenient by inducing an inordinate pressure to the tender parts immediately under it, as the principal flexor tendons and the joint of the foot. And in soils of a looser nature, as in sandy deserts, this cavity in the base of the Furch, can be farther useful by receiving them within in, thus rendering the foot more stable and firm upon such loose kind of ground. This cavity assists also by the unoccupied space it affords in conferring a degree of liberty to all the posterior parts of the foot, by its permission of a yielding on all occasions, and which freedom, liberty and elasticity of these parts is highly essential to the health and well-being of the foot, and of the due performance of all its functions.

But what we wish more particularly to impress upon the reader's attention is, that this cell, or cleft, is prevented from being ruptured inwards, or towards the quick, by a stout cone of horn, which is passing upwards from it into the Sensitive Frog, and of which cone this cleft is merely the hollowed base. And it is somewhat remarkable, that this solid cone of horn, although passing within the sanguiferous and sensitive parts of the foot, is nearly or quite as hard as is the external horn exposed to the air, in order apparently to give it the more efficiency in resisting rupture from external assault; and this cone, we may observe, commences nearly opposite to the point where the terminations of the coffin bone are found, assisting in strengthening and consolidating these posterior parts of the foot in the absence of bone. The sides of this remarkable cone are somewhat compressed or flattened, and in contracting as it rises upwards, it terminates superiorly in a rounded, bluntish edge or ridge, and posteriorly enlarging, and becoming wider, it is presenting a broad flat surface for adherence to the Curtain of the Furch. This remarkable part was without any name and very little noticed, till I gave it the epithet *Frog-stay* or *Furch-stay*, from its holding together the cleft base of the Furch, and the French have followed the example in calling it *L'arrette Fourchette*, for the same reason.

It is to be observed that the horse's foot is not exactly a *solidungula*, as the ancients called it, but is more properly a *semifissipes*, or half-cloven foot, for the hoof, though entire in front, has two terminations posteriorly, formed by its inflected extremities, and between which the Furch is inserted to fill up the large vacuity and with soft readily-yielding matter to obey the impulses and distensions of the wall; and the Furch again being nearly cleft asunder at its base, has given to it this singular nucleus, or centre-piece, the Furch-stay, in order to consolidate it, and to present a firm barrier to its separation at this part by external violence. And this barrier it is, when broken down, that is the real cause of *Frush*, or when during

the formation and growth of the young foot, it is not properly closed and consolidated, of the *natural Frush*.

Since there could not exist in nature such an anomaly as a really solid foot, that is of one continued circle of horn without any break or interruption, as the power of yielding and extending under the impression of the weight, which is an indispensable condition, would then be removed. Much less objectionable therefore, for this sort of foot, is the Greek term *monungular*, or *monuchal*, as not implying solidity, and is more consonant and agreeable to truth and nature.*

And the Furch-stay, like an inserted tooth, firmly holds the horny to the sensitive Furch; for whilst the sensitive Furch falls into the reverted arch of the horny Furch, this part entering in the opposite direction into the sensitive Furch, serves reciprocally to fix and confirm these parts together, and preserve them from external injury or dislocation." "And this part will also essentially co-operate with the coronary frog-band, in keeping the whole posterior structure of these parts together, and especially under circumstances that might tend to disunite them, as in the suction of strong clays or in swampy ground, &c."

Now this part, the Furch-stay, also appears to be the last part of the foot in obtaining its perfect growth and consolidation, and if opposed by natural weakness, or by externally destructive agents of the horn, such as wet, dirt, urine, and filth, &c. then the Frog will never be properly closed, and a Frush be the consequence through life. On casually visiting the Stud of the East India Company, Sept. 8, 1807, upon the borders of Epping Forest, I was surprised to see several young Colts whose Furches were broken, and with terrible Frushes, and the inflexions of the hoof were actually pressing in upon the base of the Furch. Now these Colts were most of them the offspring of the famous horse *Worthy*, and he also was foundered from violent racing, and perhaps from having naturally weak feet, having been a favourite. The man who looked after them, assured me, that as the Colts grew older, some of their feet became perfectly sound and free from Frush, but not all. The place where they were confined, was particularly wet, and most unsuited to any, but especially to horses in their peculiar condition. Observing these facts, I was led to reflect upon them as I returned home, and thence to perceive for the first time that it was not by the condensation of the foot, or by contracted heels, as it was called, that this frushing took place, but in fact from an imperfectly formed, or a ruptured Furch-stay. At an early stage of the growth therefore, there appears to be an opportunity of doing much good, by a sedulous attention to the breeding yards, and places for rearing these young Colts, which should be kept as free as may be from any unnecessary wet or dampness, more especially where there is a tendency or disposition to this disease. But these measures neglected, or not understood, the Furch would remain weak and unclosed, and be tender perhaps through life, and if imperfectly united, would easily disunite again on the slightest cause. Great care and attention therefore, we believe to be necessary to this part with young horses. Where, however, the Frog-stay is naturally large, healthy,

* The French often use *monodactyle* instead, but as *dactulon* is properly a finger, it seems not to apply so happily as the other.

and of firm texture, and early well consolidated, it may be able to resist all these opposing agents, and even the mal-practices of the smiths in cutting it, and shall continue through life, sound and free from rupture or disease.

The Furch-stay is subject to vary in different individuals, as to its dimensions and figure, and the period of its completion, being in some very small, in others large, in some perfected at two years and a half, and in others, not till three and a half, or four. And I once observed that the front part of the margin of the cleft, began to form and consolidate before the other parts of it, and the growth appeared to extend backwards. I mention it also as rather a singular circumstance, that a very large number of horses have one foot of the four with the furcaceous parts weak, and this I have so often remarked, that I am led to record it, sometimes happening to one of the fore, and sometimes to one of the hind feet.

I may also just mention, that it has appeared to me from some casual opportunities I have had of seeing it, that the Furch-stay is composed or made up of concentric coats, or layers of horn, or somewhat as the coats of an onion, for I have seen it to come away or exfoliate in pieces of this figure, though in a healthy sound state, a section of this part does not discover such a structure, so intimately are the coats united. I have thought also, that this part was often larger in proportion to the foot, in blood horses, than in horses of the coarser breeds. See further particulars in the *Hippodonomy*, p. 55.

There is a further circumstance in the structure of these parts which appears to be worth noticing, that on carefully dissecting the internal frog, I observed that the skin passes down and is every where continued under the horn of the furch; which horn begins by a fine edge at the line or precise point where the hair ceases to grow upon the skin, then passing outside or beneath the cutaneous furch, the organ secreting it, it thickens as it goes on to the middle, and then thins away from this centre to the point of the furch, the skin running distinctly under it the whole way; till reaching the point of the furch it is lost in the sole.

The breaking up of the Furch-stay therefore, brings this same skin into contact or exposure to extraneous bodies, and it is made and becomes the seat of irritation and tenderness. A sort of cuticle also is seen covering the horn above described, and seems to run between the two halves of the furch; though whether it be so or not, is not readily decided.

The skin appears to thicken considerably, flowing irregularly under the middle of the furch, and becomes more vascular and contains a streaky ligament which covers its surface within, and is again containing or involving it; the middle mass has a sort of granular ligament in it, for when you cut it, it starts out in elastic granular points, more so than any other of the coverings of the foot. These circumstances are best seen by laying open the frog longitudinally with a sharp scalpel, and by reflecting and turning back the divided edges.

Having described the part diseased, and the way that the natural frush is generated, I proceed now to consider the *secondary* or *acquired Frush*, which I have so called, because it is formed in feet that have been previously well closed and consolidated in this part; the secondary frush is usually generated by the mal-practices of the shoeing smiths, in unduly cutting away the horn of the furch and leaving it often in so weak a state, as to have even barely a covering of horn, or even sometimes they cut it so unmercifully that the blood flows,

and then the first stone it encounters is sufficient to break it up and rupture it, when wet and dirt insinuate themselves, and a general undermining, and ulceration of these parts of the foot ensue, with a tenderness endangering both horse and rider; and then you will perhaps be told, that it is a cankered foot, and adding with an accent which implores your acquiescence and commendation of his measures, "*that in spite of all his care and trouble with the foot, nothing could save it,*" though if simply let alone, nothing would have ailed it; so injurious is ill-judged officiousness, that there is much merit even in knowing how to let well alone.

As the ruptured Furch-stay gradually rots away, in its place is presented an ugly longitudinal slit or fissure, discharging a stinking watery humor, or sometimes pus, and the two sides of the cavity in this case, meet each other somewhat as two toes would do if their outer skin were removed; and being pressed and rubbed against each other, are producing excessive tenderness, constituting all the characters of a genuine Frush.*

Of the Cure.—As the disease consists in the rupture and destruction of the Furch-stay, so the cure will consist in restoring again and rendering solid and entire this very necessary part. The first aim or indication, as it is called, appears to be, to dry up and destroy all morbid discharges of the part, which will prevent the formation of horn, and so to procure by a salutary growth, a new and entire Furch-stay. The best desiccatives in these cases, are the metallic sulphats, as a strong solution of the sulphat of zinc, or white vitriol, in the proportion of two drams of the salt to an ounce of water; or still more powerful, but perhaps rarely or never necessary, the sulphuric acid, diluted with four parts water; but this, if applied too frequently, will become a caustic and do harm, and the other will scarcely ever fail of effecting our purpose. The oxymellate of copper, or Aegyptiac,† is an excellent preparation of this sort, made by boiling treacle and blue vitriol (sulphat of copper) together, till they assume a red colour, which appears to be equally as efficacious as honey and verdigris, at a much less expense. These desiccatives should be applied to the bottom of the cleft with a spatula, or which is better, with a stick cut thin and flat, not sharp, introducing these applications with a bit of soft herds or tow, not distending the Cleft with any force, but as little as may be, and diminishing the quantity of the tow every time, afterwards smearing the Furch and parts adjacent to the fissure with tar, by means of a painter's tool, or small brush, which is very convenient for this purpose: these dressings applied every other day will be sufficient. I have known even tar alone sufficient, regularly applied, to suppress these discharges, and to induce the formation of healthy horn. We need not have the least fear or apprehension in drying up the discharge, for it behoves us so to do whenever we can, since its continuance only serves to weaken the parts and render the cure more difficult; for there is an idle notion among the

* The French term for this disease is *Fourchette pourrie*, and *Fourchette échauffée*, the former, according to the definition given in *The Dictionnaire Encyclopédique*, is used when the frog is very badly undermined, p. 39, ART. *Medecine Veterinaire*; the ingenious writer has however, by a *contre sens* (which is no uncommon thing with the French) exactly reversed the statement of my opinion of this disease as to its being the consequence of contracted heels as he calls them.

† Probably from this medicine having originated in Egypt.

grooms, that the suppression of a Frush, "*throws humours into the body,*" though no one, perhaps, ever saw such an effect, that it is the miserable logic of smiths and stable-boys, and not worth the smallest attention. It is however, to be remarked particularly, that the suppression of the discharge may be opposed by a heated, feverish, and inflamed state of the body, from stable confinement, air, and food, and which perhaps may have given rise to this notion, and which febrile action falling upon the weak part, shall keep up the discharge, and even if dried up, shall occasion its frequent return; this circumstance must therefore be attended to, and this disposition of body be removed by a bleeding, a dose or two of physic, or the prohibition of corn for a time, by a cooler stable, or even, if necessary, a run at grass. Nature determines very often her morbid actions to the feet and legs, perhaps as being in a more dependent position, as well as being farther removed from the source of the circulation, and to the weakest parts of them. The grass therefore has a double effect in removing it by cooling the body and also cooling the feet.

We may add with considerable confidence, from an experience of its effects, to the above local application, the use of a shoe with a joint at the toe, the application of which gives liberty to the foot, and an opportunity to the hoof to open and dilate itself, and thus releases the sides of the Frog from the violent squeezing and pressure which it acquires from the use of the common shoe, and never fails to refresh and cool the foot, inducing also more healthy actions in the Furch itself, and is attended with the most signally beneficial effects.

To cut away the horn of this part, even though ragged, is only to bare the sore to its enemies, and render it subject to painful collision with the objects of the road. A small rag of horn can only be injurious when it prevents the wash or lotion from getting to the part, which it rarely or never can do, if properly applied; and although as a defence, but an indifferent one, it is useful as far as it goes, in rendering more obtuse and less felt any blows it may receive; it is, therefore, much the safer way to forbid cutting these rags altogether, and to let such wear away upon the road, than to permit under any pretence of removing them, to have the furch and furch-stay unmercifully sliced away, scalped, and denuded.

A very impoverished and wasted appearance of the heels and furch, does a bad frush occasion, and in this case, often one side is affected more than the other, depending on the internal mischief and ravages that the disorder has made; sometimes I believe the white ligamentous, or rather cartilaginous capsule which envelopes the internal frog, and sustains it, is corroded through by the discharge, or by too violent applications, and then the *resilient ligament* escapes from between the substrated layers of the part* of which the internal furch

* This part indeed often does not begin to close till the fifth year, in others it is strongly formed soon after birth, and closes at the second or third year. It was not closed in the greatest number of Lord Heathfield's young horses, sold at Tattersall's in April 1813; out of thirty it was not closed in twenty of them. (See Hippod. p. 98, pl. vi.) My chesnut mare did not well close this part till her fifth year, when it unexpectedly closed after my having despaired of seeing it. It is highly necessary to the full strength and good constitution of the foot,—and in buying, the condition of this part should be particularly attended to.

is composed, and which perhaps, as it cannot ever be renewed, is the occasion of this very wasted appearance. For an account of this most curious structure, the reader is referred to Hippod. 2nd Ed. p. 63; and for the figure of a frog so emaciated, to Podoph. pl. v. fig. 3.

Where the furch is extremely denuded, weak, and tender, a bar shoe is highly useful and necessary in protecting it from the road, and in preventing the breaking up of the newly-formed horn, afterwards a shoe with calkings will be sufficient; but, in applying the bar-shoe, it must not be permitted on any account to rest upon the frog, as has been recommended, since this part ill bears much pressure when well, much less therefore when sore and diseased.

Whilst making experiments on horses' feet some years ago, by taking the shoes off and using them without, to observe their going, and if they could be restored from the effects of the iron band and nails, as had often been asserted, but which I found from strong causes not to be true; so on one of these occasions I saw a frush generated by the foot and inflexions expanding, and the furch-stay opening in the middle and forming first, a dry cleft, which in time began to discharge, and at last became a complete running frush, though during all this time there was no want of pressure to the furch, but the contrary, which according to the doctrine of Coleman, should not only have prevented but have cured such a disease when formed.

After all discharge from the cleft has been suppressed by the measures pointed out, and the furch has become dry, horn will then form, and though the horn of the furch is remarkably slow in its growth, it gradually advances on the part until it becomes a solid cone, which will obliterate the frush entirely, and if properly encouraged and attended to afterwards, will remain entire for the lifetime of the animal; but proper care should be taken after it is so formed, to prevent the access of those causes which led to its original formation, especially if it be a natural frush and the parts extremely weak, indeed then a bar-shoe may be necessary to defend the part through life, and though with us there is often a dislike to this kind of shoe, perhaps as implying a disease, yet it is nevertheless extremely useful and necessary in protecting the part, and in making the horse when tender from these causes to go much better than by any other mode of inelastic shoeing.

Having described what much observation and experience have led me into, with this complaint, I now conclude my Essay; hoping it may prove a useful accession to Veterinary science, and advantageous to the animal himself and all those who are possessing or enquiring after knowledge in these invaluable animals.

